

Translation

## PATENT COOPERATION TREATY



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24 JAN 2005

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference  PaC302046PCT	FOR FURTHER ACTION  See Form PCT/IPEA/416	
International application No.  PCT/FR2003/002326	International filing date (day/month/year)  23 juillet 2003 (23.07.2003)	Priority date (day/month/year)  25 juillet 2002 (25.07.2002)
International Patent Classification (IPC) or national classification and IPC  C08G 14/06		
Applicant  SAINT-GOBAIN ISOVER		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (*sent to the applicant and to the International Bureau*) a total of 2 sheets, as follows:

- sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the report
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand  25 septembre 2003 (25.09.2003)	Date of completion of this report  22 November 2004 (22.11.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2003/002326

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

The international application as originally filed/furnished

the description:

pages \_\_\_\_\_ 1-13, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ 9-24, as originally filed/furnished

pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ 1-8 received by this Authority on 12 August 2004 (12.08.2004)

the drawings:

pages \_\_\_\_\_, as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_ 1-8

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_

any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_ 4

the claims, Nos. \_\_\_\_\_

the drawings, sheets/figs \_\_\_\_\_

the sequence listing (*specify*): \_\_\_\_\_

any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/FR 03/02326

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-24	YES
	Claims		NO
Inventive step (IS)	Claims	1-24	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-24	YES
	Claims		NO

## 2. Citations and explanations

1.1 The amendment to claim 1 filed with the International Bureau in compliance with PCT Article 19(1) does not cause the subject matter of the application to be extended beyond the content of the application as filed. Said amendment is supported by page 7, lines 22-26.

1.2 The amendment to the description (page 4, line 12) causes the subject matter of the application to be extended beyond the content of the application as filed. As a result, said amendment is contrary to the provisions of PCT Article 19(2).

In view of the explanation provided in the letter dated 9 August 2004 and on the basis of the description (page 6, lines 14-18), the amendment to page 4, line 12, of the description does not appear to be necessary.

## 2. Reference is made to the following documents:

D1: US-B-6 395 8191 (MAHIEUXE BRUNO ET AL)

28 May 2002 (2002-05-28);

D2: US-A-3 876 405 (EILERMAN GEORGE E)

8 April 1975 (1975-04-08);  
D3: US-A-4 146 512 (WEAVER ELSWORTH J ET AL)  
27 March 1979 (1979-03-27);  
D4: US-A-4 282 330 (AUSTIN THOMAS H)  
4 August 1981 (1981-08-04);  
D5: EP-A-1 081 209 (ETHYL CORP)  
7 March 2001 (2001-03-07).

3. The subject matter of claims 1-24 complies with the requirement of novelty defined in PCT Article 33(2).

None of cited documents D1-D5 mentions a liquid resin having at least 1000% dilutability with water at 20°C and containing at least 70% by weight of condensates produced, by a simultaneous reaction, using a phenolic compound, formaldehyde and an amino alcohol and in accordance with the Mannich reaction.

4. The subject matter of claims 1-24 involves an inventive step as defined in PCT Article 33(3).

D1 is considered to be the closest prior art because D1 describes a sizing material for mineral fibres, based on a phenol-formaldehyde resin that is substantially free of urea or urea derivatives and has low isocyanate emissions.

The difference between the application and D1 relates to the fact that the condensate in the application is produced in a single step using a phenolic compound, formaldehyde and an amino alcohol and in accordance with the Mannich reaction.

The problem to be solved is that of providing a resin that has a low capacity for generating

undesirable gaseous formaldehyde emissions and does not require the use of urea or an amine to reduce the free-formaldehyde content.

The resin in D1 is produced in two steps: the resin is formed and the free formaldehydes and phenols are thereafter trapped using the amino alcohol. The application, on the other hand, solves this problem by adding the formaldehyde and the amino alcohol simultaneously. The examples in the application demonstrate that it is possible to arrive at a free-phenol and a free-formaldehyde content much lower than that of conventional compositions.

D2 does not relate to the reduction of gaseous emissions and describes a method for producing a condensate that is different from the one in the application. The same is true of D3-D5.

It follows that since a person skilled in the art would not have found any indications in D1 and D2 that would have led to this solution and since such a person seeking to reduce gaseous emissions would not have considered documents D3-D5, the solution proposed by the application does not appear to be obvious. As a result, the subject matter of claims 1-24 involves an inventive step as defined in PCT Article 33(3).